

LISTING OF CLAIMS

1-14. (Cancelled).

15. (Currently Amended) A method for mining data of a database, comprising:

identifying transaction items of the database and determining an occurrence frequency for each item;

locking the identified transaction items to prevent other data mining processes from selecting the identified transaction items;

building a probe structure based on the identified frequent transaction items;

building a plurality of disjoint branches for the probe structure, wherein each branch of the probe structure includes a number of identified transaction items selected based on content of the transaction items and the occurrence frequency of the transaction items, ~~the selected identified transaction items for~~ **at least two branches include a common transaction item, and** each **of the plurality of disjoint branches are capable of being** ~~to be executed~~ independently **from the other plurality of disjoint branches;**

grouping the branches of the probe structure based on the content of **the transaction items of** each branch;

building a frequent pattern tree (FP-tree) from the branches of the probe structure; and

assigning, via a master processor, each branch of the FP-tree to one of a plurality of slave processors, ~~each of~~ the plurality of slave processors to execute the transaction items identified by the respective branch **in parallel with each other**, wherein the number of transaction[[s]] **items** to be executed by each of the plurality of slave processors is substantially equal.

16. (Previously Presented) The method of claim 15, further comprising scanning a first portion of the database when identifying transaction items of the database, and scanning a second portion of the database when building the probe structure, wherein the probe structure includes an associated number of counts with each branch of the probe structure after scanning the second portion of the database.

17. (Original) The method of claim 15, further comprising building the probe structure to include a probe tree and probe table, and using the probe tree and probe table to build the FP-tree for mining the FP-tree to determine frequent data patterns.

18-19. (Cancelled).

20. (Previously Presented) The method of claim 15, further comprising partitioning the database according to content of the identified transaction items to obtain the probe structure, wherein the probe structure includes combinations of the identified transaction items and the number of occurrences of one or more content-based transactions.

21. (Currently Amended) A computer-readable non-transitory storage medium having stored thereon instructions, which when executed in a system operate to manage data of a database by:
identifying transaction items of the database and determining an occurrence frequency for each item;

locking the identified transaction items to prevent other data mining processes from selecting the identified transaction items;

building a probe structure based on the identified frequent transaction items;

building a plurality of disjoint branches for the probe structure, wherein each branch of the probe structure includes a number of identified transaction items selected based on content of the transaction items and the occurrence frequency of the transaction items, ~~the selected identified transaction items for~~ **at least two branches include a common transaction item, and each of the plurality of disjoint branches are capable of being** ~~to be executed independently from the other plurality of disjoint branches;~~

grouping the branches of the probe structure based on the content of **the transaction items of** each branch;

building a frequent pattern tree (FP-tree) from the branches of the probe structure; and

assigning, via a master processor, each branch of the FP-tree to one of a plurality of slave processors, ~~each of~~ the plurality of slave processors to execute the transaction items identified by the respective branch **in parallel with each other**, wherein the number of transaction[[s]] **items** to be executed by each of the plurality of slave processors is substantially equal.

22. (Previously Presented) The computer-readable non-transitory storage medium of claim 21, wherein the instructions, which when executed in a system operate to manage data of a database further by building the probe structure to include a probe tree and probe table, and using the probe tree and probe table to build the FP-tree for mining the FP-tree to determine frequent data patterns.

23. (Cancelled).

24. (Currently Amended) A system comprising:

a master processor;

a plurality of slave processors;

a database; and

software to

identify transaction items of the database and determining an occurrence

frequency for each item,

lock the identified transaction items to prevent other data mining processes from selecting the identified transaction items,

build a probe structure based on the identified frequent transaction items;

build a plurality of disjoint branches for the probe structure, wherein each branch of the probe structure includes a number of identified transaction items selected based on content of the transaction items and the occurrence frequency of the transaction items, ~~the selected identified transaction items for~~ **at least two branches include a common transaction item, and** each **of the plurality of disjoint branches are capable of being** ~~to be executed~~ independently **from the other plurality of disjoint branches,**

group the branches of the probe structure based on the content of **the transaction items of** each branch,

build a frequent pattern tree (FP-tree) from the branches of the probe structure,

and

assign, via the master processor, each branch of the FP-tree to one of the plurality of slave processors, ~~each of~~ the plurality of slave processors to execute the transaction items identified by the respective branch **in parallel with each other**, wherein the number of transaction[[s]] **items** to be executed by each of the plurality of slave processors is substantially equal.

25. (Previously Presented) The system of claim 24, the software to further scan a first portion of the database when identifying transaction items of the database, and scan a second portion of the database when building the probe structure, wherein the probe structure includes an associated number of counts with each branch of the probe structure after scanning the second portion of the database.
26. (Previously Presented) The system of claim 24, the software to further build the probe structure to include a probe tree and probe table, and use the probe tree and probe table to build the FP-tree for mining the FP-tree to determine frequent data patterns.
27. (Previously Presented) The system of claim 24, the software to further partition the database according to content of the identified transaction items to obtain the probe structure, wherein the probe structure includes combinations of the identified transaction items and the number of occurrences of one or more content-based transactions.